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Proskauer Rose LLP
Patent Department
1585 Broadway
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EXAMINER

LIN, WEN TAI

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/704,050

Applicant(s)

PHILLIPS ET AL.

Examiner

Wen-Tai Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-194 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15, 17, 18, 21-25, 27-56, 63-103, 105, 106, 109-113, 116-144, 147-150 and 157-191 is/are rejected.
- 7) ☒ Claim(s) 16, 19, 20, 26, 57-62, 104, 107, 108, 114, 115, 145, 146, 151-156 and 192-194 is/are objected to?
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2005 and 08 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/12/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-194 are presented for examination. Claims 1-194 have been amended.
2. The text of those sections of Title 35, USC code not included in this action can be found in the prior Office Action.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
4. Claims 1, 25, 28, 32-36, 39-41, 43-46, 59, 63-67, 70-72, 74-77, 88-89, 113, 116, 120-124, 127-129, 131-134, 147, 151-155, 158-160, 162-165 and 176-194 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prust [U.S. Pat. No. 6714968] in view of Official Notice.
5. Prust was cited in the previous office action.

6. As to claims 1 and 28, Prust teaches the invention substantially as claimed including: a method for providing multi-user file storage comprising the steps of:

(a) enabling each user of a user group of one or more users [205, Fig.2] to connect an arbitrary client node at an arbitrary geographic, location to a remote file server node [201, Fig.2] via a wide area network [col.4, line 53 -col.5, line 5];

(b) enabling each user of the user group to access files of a file group at the remote file server node via the respective client node connected to the remote file server node via the wide area network, including permitting more than one user of the user group to access the same file of the file group at the remote file server node simultaneously (including sharing of the same file depending on the sharing mode -- see claim 28) [Fig.2; col.9, lines 5-10; note that, the capability of accessing a group of files by multiple clients is supported due to the fact that there are a plurality of storage servers and virtual storage areas in the system of Fig.2. Additionally, the capability of accessing a same file by multiple clients simultaneously is supported by Prust's capability of interfacing to WebDAV. This is true because, by the very nature of its associated protocol, WebDAV allows a plurality of clients to perform remote web content authoring operations on a document with integrity control]; and

(c) maintaining the integrity of the files at the remote file server node by controlling each access to each of the files at the remote file server node so that each access to each the files at the remote file server is performed, if at all, on a respective portion of the respective file as most recently updated at the remote file server node, thereby enabling all native operating system application programming interfaces to

operate so that all multi-user applications accessing the files function as if the remote server, which stores the files, and client nodes, at which such multi-user applications execute, were on the same local area network [Abstract; Fig.3; col.6, lines 3 -12 and 22-28].

Prust teaches that authenticating the user information includes comparing the user information to a username and password, stored on the remote storage server [col.10, lines 28-33]. Prust does not specifically teach delegating access control to a particular file of the group of files to an access control node.

However, Official Notice is taken that separating access control (e.g., authentication and authorization) from the content server is well known in the art of load sharing or in a three-tier content provisioning services, wherein the access control is normally performed at a different node so as to free up the content servers from the burden of qualifying a user.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to delegate Prust's access control to an access control node, because by doing so it would alleviate the storage servers' burden in Prust system.

7. As to claim 25, Prust further teaches providing an interface for adapting file access at a particular client node by designating at the particular client node each one or more of the accessible files of the file group as stored on a virtual storage device, and enabling access to the designated files in a fashion which is indistinguishable, by users of, and applications executing at, the first client node, with access to one or more files

stored on a physical storage device that is locally present at the first client node [Fig.2; col.5, lines 12-27; col.6, lines 3-36].

8. As to claim 32, Prust teaches authenticating the user information by comparing the user information to a username and password, stored on the remote storage server, wherein the client node also verifies the identity of the remote server node [col.10, lines 25-33; note that, by default, the step of verifying the identity of the remote server node takes place when the client makes connection request to the storage server because the server's ID needs to be correctly specified].

9. As to claims 33-36 and 39, Prust further teaches the step of:

(f) encrypting data of a file at the particular client node using an encryption methodology known to the client node but not known to the remote file server node;

(g) uploading the encrypted data to the remote file server node; and

(h) storing the encrypted file data at the remote file server node.

[See col.1, lines 49-67.]

As for the additional steps described in claims 34-36 and 39: Official Notice is taken that encrypting a data file using a public-private key pair and transferring encrypted key for a designated user who only knows the public key (for purpose of decrypting the encrypted key) is well known in the art. Since Prust and Slein's storage

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server may only serve as file storage for certain particular clients, there is no need for the storage server to decrypt the data; only the designated receiver needs to.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow encrypted data files transferred between two clients en-routing the storage server. As such the procedures described in claims 34-36 and 39 are typical, because it ensures that only the designated data recipient or the file owner has the necessary private key to decrypt the data.

10. As to claim 40, Prust does not specifically teach compressing the information of the file prior to uploading the file or decompressing the information of the file subsequent to downloading the file.

However, Official Notice is taken that the advantages of using compression techniques to reduce the size of a file is well known in the art of network communication.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply compression/decompression to Prust's data file prior transferring it to the storage server, because by doing so it would reduce the transfer time and the storage space at the virtual storage.

11. As to claim 43, Prust further teaches enabling the users to access one or more of the files at one or more additional file server nodes [Fig.2, wherein there are multiple storage servers available to each user].

12. As to claim 44, Prust and Slein does not specifically teach that the particular client node can access a copy of a particular file on one of the remote file server node or a particular additional file server node which is most efficient for the particular client node.

However, Official Notice is taken that finding efficient way for retrieving data from an information provider in the network environment is well known in the art. For example, it has been widely adopted to provide mirror sites by taking advantage of geological proximity; it is also a common practice to use a plurality of servers for load sharing, wherein a client's request is directed to a most efficient server for services.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adopt a load sharing measure in Prust's system because by doing so a most available storage server could always be selected at the time of request.

13. As to claims 177-179, Prust teaches that the computers in 205 of Fig.2 can be any devices ranging from a nominal PC, mobile devices, or PDA [col.3, lines 37-40], which include wireless communications link (for portable devices).

14. As to claims 41, 45-46, 59, 63-67, 70-72, 74-77, 88-89, 113, 116, 120-124, 127-129, 131-134, 147, 151-155, 158-160, 162-165, 176 and 180-194, since the features of these claims can also be found in claims 1, 25, 28, 32-36, 39-40, 43-44, 46, 57-58, 63-

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64, 74, 77, 89, 120-121, 131, 134, 145, 162 and 177-179, they are rejected for the same reasons set forth in the rejection of claims 1, 25, 28, 32-36, 39-40, 43-44, 46, 57-58, 63-64, 74, 77, 89, 120-121, 131, 134, 145, 162 and 177-179 above.

15. Claims 2-15, 17, 21-24, 27, 29-31, 37-38, 42, 47-56, 60-62, 68-69, 73, 78-87, 90-103, 105, 109-112, 117-119, 125-126, 130, 135-144, 148-150, 156-157, 161 and 166-175 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prust [U.S. Pat. No. 6714968] and Official Notice, as applied to claims 1, 25, 28, 32-36, 39-41, 43-46, 59, 63-67, 70-72, 74-77, 88-89, 113, 116, 120-124, 127-129, 131-134, 147, 151-155, 158-160, 162-165 and 176-194 above, further in view of Slein et al.(hereafter "Slein") [RFC 2291].

16. Both Prust and Slein were cited in the previous office action.

17. As to claims 2-4, Prust further teaches that the storage server supports WebDAV for accessing the data files stored in the remote storage area [col.9, lines 5-10], wherein WebDAV is a web distributed authoring and versioning protocol [col.3, lines 12-15]. Although Prust does not reveal the details of WebDAV, information provided by Slein obviously shows that, under the notion of WebDAV, Prust in view of Official Notice supports various interactions between the client and servers (including a separate access controller):

- requesting access to some particular files can only be permitted via access control [e.g., via authentication and/or authorization] (claim 2);

- issuing the request from the particular client node to the remote file server node and in response to determining that the one file is the particular file, forwarding the request to the access control node (claim 3) [see the rejection of claim 1 above (i.e., based on a modified Prust system in view of Official Notice); and

- in response to receiving at the particular client node a response from the access control node, issuing further messages pertaining to the access of the particular file directly from the particular client node to the access control node.

[See e.g., Slein: Sec. 4.6 and 5.3, wherein in the above steps are obvious interactions between the client, storage server and the control node for implementing lock write to a portion of a document.]

18. As to claims 5 and 11, Prust in view of Slein does not specifically teach delegating version control of the particular file to a version control node. However, for the same reasons stated in the rejection of claim 1 (i.e., under the notion of load sharing), it is obvious to have Prust's version control implemented in a separate node (wherein the version control node may also be the access control node for the particular file), because by doing so it would further alleviate the storage server's burden.

19. As to claims 6-10, Prust in view of Slein further teaches the steps of:

(f) requesting, at a particular client node, for confirmation that at least a part of a particular copy of the particular file is the most updated version of the respective part of the particular copy of the file;

(g) accessing the part of the particular copy of the particular file only if permitted by the version control node;

(h) issuing a request for confirming that at least a part of the particular file is the most updated version, from the particular client node to the remote file server node;

(i) in response to determining that the one file is the particular file, forwarding the message to the version control node; and

(j) in response to receiving a response from the version control node at the particular client node, issuing further messages pertaining to version of the particular file directly from the particular client node to the version control node,

wherein

- the particular client node stores the part of the particular copy in a storage device which is physically located locally to the particular client node [e.g., it is well known to use a local cache as temporary storage]; and

- in response to modifying the particular file, the particular client node issues to the version control node a version update message for the file indicating a recent update has occurred on the particular file.

[See e.g., Slein: Sec. 5.9, wherein all the above confirmation steps are obvious options in the context of version control.]

20. As to claims 12-15, 21-23 and 27, Prust in view of Slein further teaches the step of: (e) while a particular client node is in communication with the remote file server node, selectively downloading from the remote file server node to the particular client node via the wide area network a copy of at least a most recently updated portion of a particular file to be accessed by the particular client node and which the particular client node lacks, wherein at all times, each client node in communication with the remote file server node adheres to explicit and implicit file sharing modes specified by the native file application programming interfaces [Prust: col.1, lines 49-67; Slein: Sec. 5.3; note that since Prust does not teach allowing a client node to change the sharing mode of a file, it is obvious that such change is not recommended because the sharing mode is normally specified by the resource owner or a privileged party].

Furthermore, in light of Slein's authoring and versioning control, the steps described in claims 13-15 are obvious because a modified portion, whether being incrementally changed or updated once for all, has to be eventually written back to the central storage system for coherence maintenance.

21. As for the steps described in claims 21-23 requiring the client node to selectively invalidating the portion of a resource that has been updated by others (claim 21), followed by downloading the valid portion of the resource (claim 22), wherein the existing connection is a re-established connection between the client and the server (claim 23): it is noted that these steps are legitimate options of what a client can do in light of Prust and Slein's teachings because Prust and Slein support browsing through

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past and alternative versions of a resource via a version graph [Slein: Sec. 5.9.3], and therefore it is up to the client to decide which version is valid and update the local copy of the resource to a desired version.

22. As for the additional feature in claim 27 requiring the prevention of another client node from contemporaneously accessing a copy of the particular file according to a file sharing access mode which is incompatible to the file sharing access modes currently available to the particular client node for accessing the particular file: it is noted that this is an obvious feature in Prust and Slein's system, because this is part of Slein's versioning rule that the most updated version (including the file sharing mode) should take effect.

23. As to claim 17, Prust in view of Slein does not specifically teaches the steps of:

(f) if the particular client node closes its communication channel with the remote file server node before closing the particular file then relinquishing the particular file at the remote file server node and enabling other client nodes in communication with the remote file server via the wide area network to access the particular file.

However, relinquishing the access right of a particular file due to the disconnection of an associated communication channel (for whatever reason) is an obvious practice because this would prevent any interrupted connection from holding up resources that may otherwise be available to other qualified clients.

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24. As to claim 24, Slein teaches that the server supplies a default version of a copy of a file (which nominally is the most updated copy) [Slein: Sec. 5.9.2.4], which means: "transparently to, and without specific action of, one of the users of a first client node in communication with the remote file server node via the wide area network, downloading from the remote file server node via the wide area network to the first client node modifications to a copy of a particular file maintained at the remote file server node, wherein the modifications were made by another client node.

25. As to claim 29, Prust and Slein do not specifically teach enabling each client to contemporaneously indirectly access such certain files through an intermediary node which performs each such access directly on behalf of the client nodes.

However, Official Notice is taken that accessing certain files via a proxy server is well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to allow an intermediary node performing file access in behalf of a device because by doing so it would additional services (such as format conversion) to be performed at the intermediate node.

26. As to claims 30-31, Prust and Slein do not specifically teach forming a pre-subscribed user group by sending out email invitations.

However, Official Notice is taken that using email to solicit a user to join a register as a user of certain website, such as Times or Wall Street Journal, is well known in the art.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that such measure can also be adopted in Prust and Slein's system because, as an Internet-based service provider requiring a broad range of subscribers, emailing is one of the most effective advertising methods.

27. As to claim 37, Prust and Slein further teaches:

(f) receiving at the remote file server node, a request from a specific client node to access a particular file;

(g) determining at the remote file server node whether or not the particular access requested by the specific client node is permitted by privilege access rights associated with the particular file; and

(h) only permitting the access to the particular file by the specific client node if permitted by the privilege access rights associated with the particular file.

[Note that it is by default that the owner of a sharable file and its designated authors may have the privilege to write (and the right to locking the file when engaging a modification (See Sec. 5.3 of Slein).]

28. As to claim 42, Prust and Slein teach a system that is generally applicable to users of the Internet for accessing files stored in virtual storage areas. Prust and Slein

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do not specifically teach organizing the users and files into different groups and allowing users of each group to access their respective group of files, but also having at least one particular user commonly assigned to all groups who can contemporaneously access files in each group.

However, Official Notice is taken that it is well known in the art to set up different user groups in accordance with the projects they are working on, wherein the files accessible to each group may also be organized under the file system by forming different directories, yet allowing at least one administrator the privilege to access all of the group of files.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply Prust and Sleini's system in the aforementioned project-oriented application, wherein through Prust and Sleini's authoring and versioning method the sophisticated project management can be facilitated.

29. As to claims 38, 47-56, 60-62, 68-69, 73, 78-87, 90-103, 105, 109-112, 117-119, 125-126, 130, 135-144, 148-150, 156-157, 161 and 166-175, since the features of these claims can also be found in claims 1-15, 17, 21-22, 24, 28-32, 37, 42, 46, 57-59, 63, 77, 89, 116, 120, 134, 145, 147, 151 and 165, they are rejected for the same reasons set forth in the rejection of claims 1-15, 17, 21-22, 24, 28-32, 37, 42, 46, 57-59, 63, 77, 89, 116, 120, 134, 145, 147, 151 and 165 above.

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30. Claims 18 and 106 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prust [U.S. Pat. No. 6714968] and Official Notice, as applied to claims 1-15, 17, 21-25, 27-56, 59-103, 105, 109-113, 116-144 and 147-194 above, and Slein et al.(hereafter "Slein") [RFC 2291], as applied to claims 2-15, 17, 21-24, 27, 29-31, 37-38, 42, 47-56, 60-62, 68-69, 73, 78-87, 90-103, 105, 109-112, 117-119, 125-126, 130, 135-144, 148-150, 156-157, 161 and 166-175 above, further in view of Hopmann et al.(hereafter "Hopmann") [U.S. Pat. No. 6578069].

31. Prust, Slein and Hopmann were cited in the previous office action.

32. As to claim 18 and 106, Prust in view of Slein does not specifically teach allowing a client to perform off-line editing.

However, Hopmann teaches a similar system (which also supports WebDAV protocol) allowing a client to edit a downloaded resource and update the modified portion stored in the server when the client re-establish communication with the server [col.1, lines 8-19].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to support the activities of off-line editing with a follow-up update of the modified portion of a file because a modification process normally takes longer time to type, and releasing a connection with the server while doing the typing means saving useful resources for the rest of the qualified clients.

33. Claims 16, 19-20, 26, 57-62, 104, 107-108, 114-115, 145-146, 151-156 and 192-194 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

34. Applicant's arguments filed on 1/19/2005 for claims 1-194 have been fully considered but they are not deemed to be persuasive.

35. Applicant argues in the remarks that:

1. **Re. Claims 1, 46, 77, 89, 134 and 165:** Prust and other associated prior art do not teach a method/system that permits more than one users to access a same file of a designated file group at the remote file server node simultaneously.

2. **Re. Claims 77 and 165:** Prust and other cited prior art do not teach a method/system that transfers an encrypted key from the remote file server node to a particular client node via a secure channel, the key being decryptable using an decryption function not known locally at the remote file server node and also not known locally at any other client node usable by others of the presubscribed user group.

36. Examiner respectfully disagrees with applicant's remarks:

As to point 1: Prust teaches an access mode via application programming interface (API) of the client's operating system, which supports Web Distributed

Authoring and Versioning (WebDAV). The latter is known to supports access files within the remote storage area as if the data files were local [col.9, lines 5-10; note that Applicant admits that by allowing a remote file to be accessible as if it were located locally, it would be possible to access the same file by a plurality of local users (see Specification page 3, lines 3-9)], because, by the very nature of its supported protocol, WebDAV allows a plurality of clients to perform remote web content authoring operations on a document (i.e., a same file) with integrity control [see also paragraph #6 of the instant office action].

As to point 2: The cited prior art (together with the Official Notice) reads on the claimed features because in the previous Official Notice it clearly stated a scenario where a file owner encrypts the file (together with an encrypted key) before uploading the file to a storage site. The encrypted file can be sent to a designated client or retrieved by the file owner himself. In such a nominal scenario, neither the remote file server, nor the other clients would know the key because they are irrelevant parties.

For at least the above reasons, it is submitted that the prior art of record reads on the claims.

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37. Because Applicants have failed to challenge any of the Examiner's "Official Notices" stated in the previous office action in a proper and reasonably manner, they are now considered as admitted prior art. See MPEP 2144.03

38. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

39. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Examiner note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.

Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing

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responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the contest of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (571)272-3969. The examiner can normally be reached on Monday-Friday (8:00-5:00) . If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(703)872-9306 for official communications; and

(571)273-3969 for status inquires draft communication.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Tai Lin

June 9, 2005

Wen-Tai Lin
6/9/05